

REMARKS

Entry of this Amendment and reconsideration are respectfully requested in view of the amendments made to the claims and for the remarks made herein.

Claims 1-9 are pending and stand rejected.

The Office Action maintains the rejection of claims 1-9 under 35 USC 103(a) as being unpatentable over Ng (USP no. 5,146,325) in view of de Haan ("True-Motion Estimation with 3-D Recursive Search Block Matching), and further in view of Kikuchi (USP no.5,713,840).

In response to the arguments the instant Office Action states that "Kikuchi teaches generating prediction errors based on a first motion vectors and a second motion vectors. ... In the teachings, the first and second motion vectors are associated with non-divided and divided regions, respectively. In Kikuchi, there are three sizes of region: non-divided small region, divided small region and large region, each being associated with first, second and third motion vectors. Claim 1 calls for 'providing an indication that prediction errors are in dependence upon a second motion vectors.' Kikuchi indeed provides Flags 725, 816 and 826 as the indication (column 31, lines 1-63; column 32, lines 20-25; column 42, lines 44-55). The Examiner agrees that there is no indication whether motion vectors of large region or non-divided small region are used. This is not relevant to the recited limitations. Actually, Kikuchi provides indication whether the first motion vectors or the second motions vectors or are used [sic]. The concept is to provide an indicator for selection between motion vectors between an area and its divided sub areas for generating prediction error for coding."

Applicant thanks the Examiner for providing additional rationale for maintaining the rejection of the claims. However, applicant continues to respectfully disagree with, and explicitly traverse, the reason for rejecting the claims; but has amended the claims to recite that the indication that the predictions errors are in dependence upon said second motion vectors is combined with the first motion vectors and the prediction errors. No new matter has been added. Support for the amendment may be found at least on page 5, lines 10-15.

Applicant repeats, as if in full herein, the characterization of the Ng and de Haan references cited in applicant's prior responses.

With regard to the Kikuchi reference, Kikuchi teaches, in col. 31, lines 1-61, that motion vectors are determined for smaller regions and flags are provided which indicate whether the flags are associated with smaller regions that are subdivided or not subdivided. More specifically, in one case flag 725 is set to indicate motion compensation prediction of a smaller region without region division (see col. 31, lines 13-14) and in another case flag 725 is set indicating region division of a small region (see col. 31, lines 38-39). The flag 725 is used by the encoder to use one index or another index in a code book (see, col. 31, lines 8- 54, "[t]he code vectors, candidates for motion vectors used in motion compensation prediction without region division, are stored in the first code book 711 in the form of the difference from the code vector of the obtained large-region representative motion vector 745. The second controller 703 outputs to the second prediction circuit 701 a flag 725 indicating motion compensation prediction without region division and changes code book indexes 715 sequentially to take the corresponding difference motion vectors out of the code book 711...The second controller 703 obtains a code book index for which the magnitude of the error given by the error level signal 710 is the smallest. On the other hand, the second code book 712 stores candidates for region shape in segmentation based on compensation in the form of code vectors. The third and fourth code books 713 and 714 stores code vectors, motion vector candidates in the two divided regions, in the form of the difference from the large--region representative motion vector 745. The second controller 703 outputs to the second prediction circuit 701 a flag 726 indicating region-division motion compensation prediction and changes code book indexes 716 sequentially to take the region-division shape information 722...The second controller 703 obtains a code book index for which the magnitude of the error given by the error level signal 710 is the smallest. The second controller 703 selects the one for which the motion compensation prediction is the smallest from the motion compensation predictions with and without region division thus obtained and outputs the code book index corresponding to the selected information...).

Hence, Kikuchi discloses the use of the flag 725 to determine which elements within a code book are to be transmitted and fails to disclose that the flag 725 is provided to indicate that the prediction errors are in dependence upon the second motion vectors. Similarly the flag 816 is determined from the information received and used to determine which set of indices are to be used. (see col. 32, lines 20-25, "[t]he decoder 825 decodes a flag 816 indicating which of region division and non-region is used in small-region motion compensation prediction and code book indexes 815 and 816.")

Kikuchi fails to disclose that the flag 725 is includes with the motion vectors and the prediction errors.

A claimed invention is prima facie obvious when three basic criteria are met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings therein. Second, there must be a reasonable expectation of success. And, third, the prior art reference or combined references must teach or suggest all the claim limitations.

With reference to the subject matter recited in claim 1, Kikuchi fails a material element and, hence, the combination of Ng, deHaan and Kikuchi fails to teach all the elements recited in claim 1.

Accordingly, the invention recited in claim 1 is not rendered obvious by the teachings of the cited reference, as the combined device fails to recite all the elements claimed in independent claim 1.

For at least this reason, applicant submits that the reason for the rejection of claim 1 has been overcome and respectfully requests that the rejection be withdrawn.

With regard to the remaining independent claims, these claims recite subject matter similar to that recited in claim 1 and are not rendered obvious by the cited references for the same arguments made with regard to the rejection of claim 1.

For at least this reason, applicant respectfully requests withdrawal of the rejection and allowance of the claims.


The other claims in this application are each dependent from the independent claim discussed above and are therefore believed patentable for the same reasons.

Since each dependent claim is also deemed to define an additional aspect of the invention, individual consideration of the patentability of each on its own merits is respectfully requested.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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